Федеральное государственное автономное образовательное учреждение высшего образования

«Национальный исследовательский университет ИТМО»

Факультет Информационных технологий и программирования

Работа: Лабораторная работа по Проектированию баз данных №5

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Вариант №8  
Создание коллекций  
db.createCollection("users");

db.createCollection("consultants");

db.createCollection("seekers");

db.createCollection("employers");

db.createCollection("vacancies");

db.createCollection("services");

db.createCollection("conversations");

db.createCollection("messages");

db.createCollection("resumes");

## Создание индексов

db.users.createIndex({ username: 1, surname: 1 });

db.consultants.createIndex({ experience: 1, scope: 1 });

## Создание представлений

db.createView(

"users\_txt",

"messages",

[

{

$lookup: {

from: "users",

localField: "sender\_id",

foreignField: "user\_id",

as: "sender"

}

},

{

$unwind: "$sender"

},

{

$project: {

user\_id: "$sender.user\_id",

text\_message: "$text\_message"

}

}

]

);  
  
Скрипты заполнения  
db.users.insertMany([

{ user\_id: 1, username: "user1", surname: "surname1", patronymic: "patronymic1" },

{ user\_id: 2, username: "user2", surname: "surname2", patronymic: "patronymic2" },

{ user\_id: 3, username: "user3", surname: "surname3", patronymic: "patronymic3" },

{ user\_id: 4, username: "user4", surname: "surname4", patronymic: "patronymic4" },

{ user\_id: 5, username: "user5", surname: "surname5", patronymic: "patronymic5" },

{ user\_id: 6, username: "user6", surname: "surname6", patronymic: "patronymic6" },

{ user\_id: 7, username: "user7", surname: "surname7", patronymic: "patronymic7" },

{ user\_id: 8, username: "user8", surname: "surname8", patronymic: "patronymic8" },

{ user\_id: 9, username: "user9", surname: "surname9", patronymic: "patronymic9" },

{ user\_id: 10, username: "user10", surname: "surname10", patronymic: "patronymic10" }

]);

db.consultants.insertMany([

{ user\_id: 1, scope: "IT", experience: 5 },

{ user\_id: 2, scope: "Finance", experience: 10 },

{ user\_id: 3, scope: "Marketing", experience: 2 },

{ user\_id: 4, scope: "HR", experience: 8 },

{ user\_id: 5, scope: "Management", experience: 15 },

{ user\_id: 6, scope: "Sales", experience: 7 },

{ user\_id: 7, scope: "Education", experience: 3 },

{ user\_id: 8, scope: "Healthcare", experience: 12 },

{ user\_id: 9, scope: "Engineering", experience: 4 },

{ user\_id: 10, scope: "Consulting", experience: 9 }

]);

db.seekers.insertMany([

{ user\_id: 11, address: "123 Main St", phone\_number: "123-456-7890", email: "seeker1@example.com", status: "looking" },

{ user\_id: 12, address: "456 Elm St", phone\_number: "987-654-3210", email: "seeker2@example.com", status: "employed" },

{ user\_id: 13, address: "789 Oak St", phone\_number: "456-789-1234", email: "seeker3@example.com", status: "looking" },

{ user\_id: 14, address: "321 Pine St", phone\_number: "321-654-9870", email: "seeker4@example.com", status: "employed" },

{ user\_id: 15, address: "654 Maple St", phone\_number: "654-321-0987", email: "seeker5@example.com", status: "looking" },

{ user\_id: 16, address: "987 Birch St", phone\_number: "789-456-1230", email: "seeker6@example.com", status: "employed" },

{ user\_id: 17, address: "111 Cedar St", phone\_number: "111-222-3333", email: "seeker7@example.com", status: "looking" },

{ user\_id: 18, address: "222 Fir St", phone\_number: "222-333-4444", email: "seeker8@example.com", status: "employed" },

{ user\_id: 19, address: "333 Spruce St", phone\_number: "333-444-5555", email: "seeker9@example.com", status: "looking" },

{ user\_id: 20, address: "444 Redwood St", phone\_number: "444-555-6666", email: "seeker10@example.com", status: "employed" }

]);

db.employers.insertMany([

{ employer\_id: 21, tin: "123456789", company\_name: "Tech Corp", rating: 4.5, scope: "IT", description: "A tech company" },

{ employer\_id: 22, tin: "987654321", company\_name: "Finance Inc", rating: 4.0, scope: "Finance", description: "A finance company" },

{ employer\_id: 23, tin: "456123789", company\_name: "Marketing Masters", rating: 3.8, scope: "Marketing", description: "A marketing company" },

{ employer\_id: 24, tin: "789456123", company\_name: "HR Experts", rating: 4.2, scope: "HR", description: "An HR company" },

{ employer\_id: 25, tin: "321789456", company\_name: "Management Pros", rating: 4.7, scope: "Management", description: "A management company" },

{ employer\_id: 26, tin: "654987321", company\_name: "Sales Leaders", rating: 3.9, scope: "Sales", description: "A sales company" },

{ employer\_id: 27, tin: "789123456", company\_name: "Education Partners", rating: 4.1, scope: "Education", description: "An education company" },

{ employer\_id: 28, tin: "123789456", company\_name: "Healthcare Solutions", rating: 4.3, scope: "Healthcare", description: "A healthcare company" },

{ employer\_id: 29, tin: "456987123", company\_name: "Engineering Experts", rating: 4.0, scope: "Engineering", description: "An engineering company" },

{ employer\_id: 30, tin: "789321654", company\_name: "Consulting Masters", rating: 4.4, scope: "Consulting", description: "A consulting company" }

]);

db.vacancies.insertMany([

{ vacancy\_id: 1, employer\_id: 21, profession: "Software Developer", description: "Develop software", format: "Full-time" },

{ vacancy\_id: 2, employer\_id: 22, profession: "Accountant", description: "Manage finances", format: "Full-time" },

{ vacancy\_id: 3, employer\_id: 23, profession: "Marketing Specialist", description: "Promote products", format: "Full-time" },

{ vacancy\_id: 4, employer\_id: 24, profession: "HR Manager", description: "Manage HR tasks", format: "Full-time" },

{ vacancy\_id: 5, employer\_id: 25, profession: "Project Manager", description: "Manage projects", format: "Full-time" },

{ vacancy\_id: 6, employer\_id: 26, profession: "Sales Representative", description: "Sell products", format: "Full-time" },

{ vacancy\_id: 7, employer\_id: 27, profession: "Teacher", description: "Teach students", format: "Full-time" },

{ vacancy\_id: 8, employer\_id: 28, profession: "Nurse", description: "Provide healthcare", format: "Full-time" },

{ vacancy\_id: 9, employer\_id: 29, profession: "Engineer", description: "Develop engineering solutions", format: "Full-time" },

{ vacancy\_id: 10, employer\_id: 30, profession: "Consultant", description: "Provide consulting", format: "Full-time" }

]);

db.services.insertMany([

{ service\_id: 1, consultant\_id: 1, cost\_service: 100, description: "IT consulting service" },

{ service\_id: 2, consultant\_id: 2, cost\_service: 200, description: "Financial consulting service" },

{ service\_id: 3, consultant\_id: 3, cost\_service: 150, description: "Marketing consulting service" },

{ service\_id: 4, consultant\_id: 4, cost\_service: 180, description: "HR consulting service" },

{ service\_id: 5, consultant\_id: 5, cost\_service: 220, description: "Management consulting service" },

{ service\_id: 6, consultant\_id: 6, cost\_service: 170, description: "Sales consulting service" },

{ service\_id: 7, consultant\_id: 7, cost\_service: 120, description: "Education consulting service" },

{ service\_id: 8, consultant\_id: 8, cost\_service: 210, description: "Healthcare consulting service" },

{ service\_id: 9, consultant\_id: 9, cost\_service: 160, description: "Engineering consulting service" },

{ service\_id: 10, consultant\_id: 10, cost\_service: 190, description: "General consulting service" }

]);

db.conversations.insertMany([

{ conversation\_id: 1, initiator\_id: 1, answerer\_id: 2 },

{ conversation\_id: 2, initiator\_id: 3, answerer\_id: 4 },

{ conversation\_id: 3, initiator\_id: 5, answerer\_id: 6 },

{ conversation\_id: 4, initiator\_id: 7, answerer\_id: 8 },

{ conversation\_id: 5, initiator\_id: 9, answerer\_id: 10 },

{ conversation\_id: 6, initiator\_id: 1, answerer\_id: 3 },

{ conversation\_id: 7, initiator\_id: 2, answerer\_id: 4 },

{ conversation\_id: 8, initiator\_id: 5, answerer\_id: 7 },

{ conversation\_id: 9, initiator\_id: 6, answerer\_id: 8 },

{ conversation\_id: 10, initiator\_id: 9, answerer\_id: 1 }

]);

db.messages.insertMany([

{ message\_id: 1, conversation\_id: 1, sender\_id: 1, text\_message: "Hello from user1" },

{ message\_id: 2, conversation\_id: 1, sender\_id: 2, text\_message: "Hello from user2" },

{ message\_id: 3, conversation\_id: 2, sender\_id: 3, text\_message: "Hello from user3" },

{ message\_id: 4, conversation\_id: 2, sender\_id: 4, text\_message: "Hello from user4" },

{ message\_id: 5, conversation\_id: 3, sender\_id: 5, text\_message: "Hello from user5" },

{ message\_id: 6, conversation\_id: 3, sender\_id: 6, text\_message: "Hello from user6" },

{ message\_id: 7, conversation\_id: 4, sender\_id: 7, text\_message: "Hello from user7" },

{ message\_id: 8, conversation\_id: 4, sender\_id: 8, text\_message: "Hello from user8" },

{ message\_id: 9, conversation\_id: 5, sender\_id: 9, text\_message: "Hello from user9" },

{ message\_id: 10, conversation\_id: 5, sender\_id: 10, text\_message: "Hello from user10" }

]);

db.resumes.insertMany([

{ resume\_id: 1, seeker\_id: 11, experience: 3, profession: "Developer", salary: 50000, skills: "JavaScript, Node.js" },

{ resume\_id: 2, seeker\_id: 12, experience: 5, profession: "Accountant", salary: 60000, skills: "Excel, QuickBooks" },

{ resume\_id: 3, seeker\_id: 13, experience: 2, profession: "Marketer", salary: 45000, skills: "SEO, Google Ads" },

{ resume\_id: 4, seeker\_id: 14, experience: 4, profession: "HR Specialist", salary: 55000, skills: "Recruitment, Training" },

{ resume\_id: 5, seeker\_id: 15, experience: 7, profession: "Project Manager", salary: 70000, skills: "Project Planning, Agile" },

{ resume\_id: 6, seeker\_id: 16, experience: 1, profession: "Sales Representative", salary: 40000, skills: "Salesforce, Negotiation" },

{ resume\_id: 7, seeker\_id: 17, experience: 6, profession: "Teacher", salary: 48000, skills: "Curriculum Development, Teaching" },

{ resume\_id: 8, seeker\_id: 18, experience: 8, profession: "Nurse", salary: 65000, skills: "Patient Care, Medication Administration" },

{ resume\_id: 9, seeker\_id: 19, experience: 3, profession: "Engineer", salary: 55000, skills: "CAD, Problem Solving" },

{ resume\_id: 10, seeker\_id: 20, experience: 5, profession: "Consultant", salary: 60000, skills: "Consulting, Client Management" }

]);